SE EXP6 P-2-P RENTAL PLATFORM
DATA FLOW DIAGRAM

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Project Description:

This project aims to develop a secure, user-friendly peer-to-peer rental platform that enables individuals to share and temporarily rent everyday items within their local community. By allowing owners to publish detailed item listings and renters to browse, book, and pay through a seamless interface, the system promotes cost-effective access to resources and reduces underutilization of goods. Integrated features such as real-time chat, instant notifications, and a secure payment gateway ensure smooth communication, transparent transactions, and a trustworthy user experience. Through this community-driven marketplace, the platform encourages sustainable consumption, fosters collaboration, and provides a convenient solution for borrowing and lending items.

Data Flow Diagram (DFD):

A Data Flow Diagram (DFD) is a graphical tool that shows how data enters, moves through, and exits a system. It provides a high-level view of system processes, data stores, and flows, making it easy to understand for both technical and non-technical users. As a structured-analysis tool, DFDs are widely used to visualize key steps and data interactions in software systems.

Characteristics of Data Flow Diagram (DFD):

1. **Graphical Representation** – Uses symbols to represent data flow, simplifying complex systems for easy understanding.

2. **Problem Analysis** – Helps in analyzing systems and is useful beyond just software requirement specification.

3. **Abstraction** – Focuses on data flow and processes, hiding implementation details.

4. **Hierarchy** – Supports multiple levels (0-level for overview, deeper levels for detailed processes).

Levels of Data Flow Diagram (DFD):

1. **Level 0 (Context Diagram)** –

   o Highest-level diagram.

   o Represents the whole system as a single process.

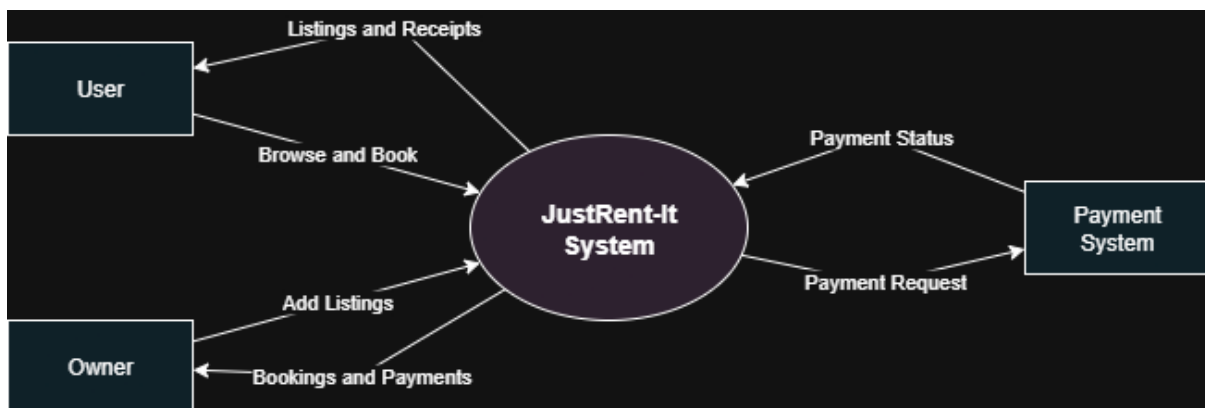   o Shows interactions with external entities and overall data flow.

2. **Level 1** –

   o Breaks down Level 0 into sub-processes.

   o Shows detailed data flows and data stores.
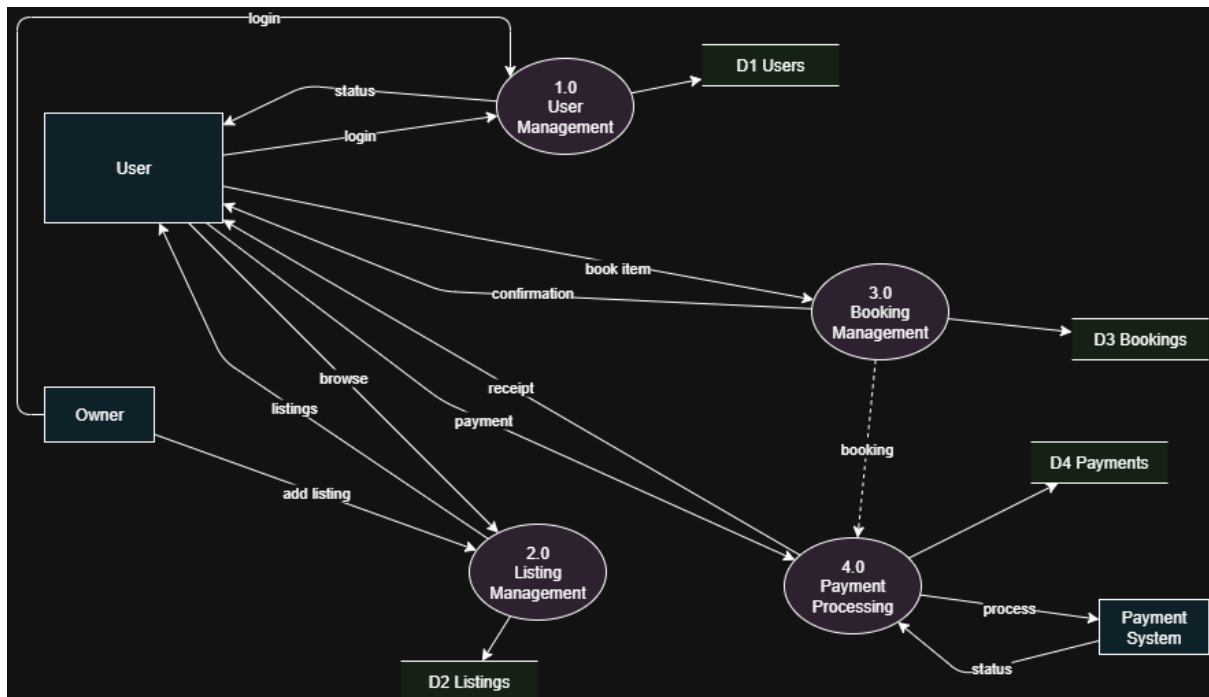
   o Focuses on key functional aspects of the system.

3. **Level 2** –

   o Further decomposes Level 1 sub-processes.

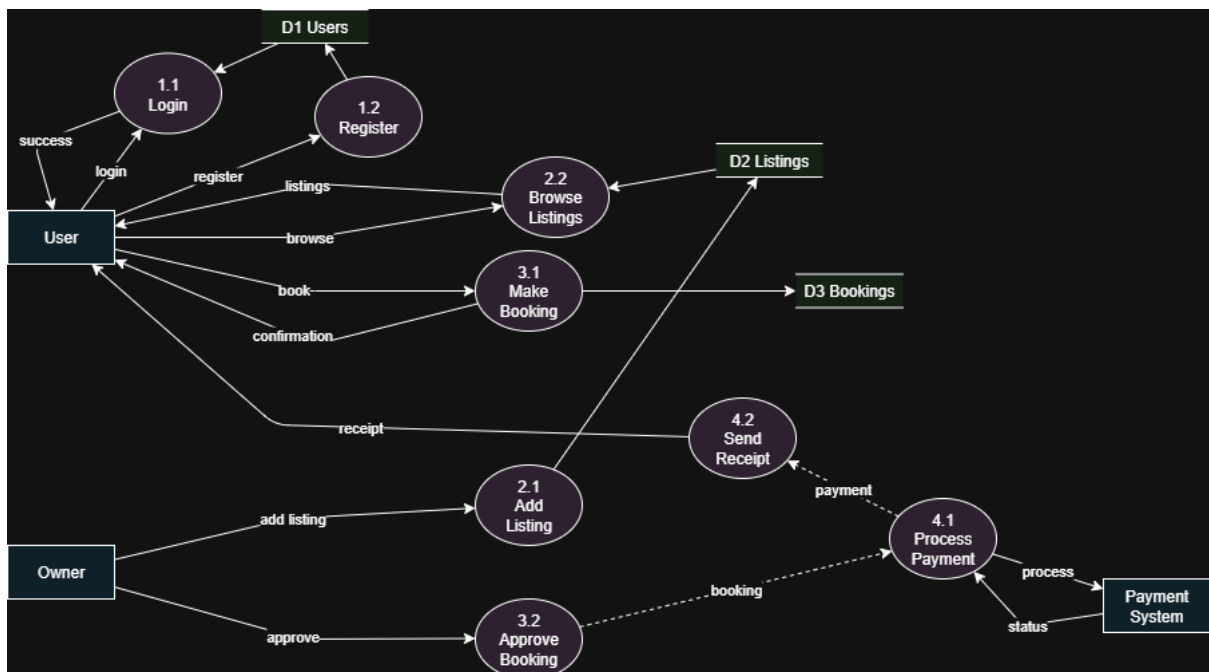   o Provides a closer view of specific system requirements and interactions.

Level 0:

Level 1:

Level 2:

Conclusion:

The experiment demonstrated the use of Data Flow Diagrams (DFDs) to model a secure, peer-to-peer rental platform. It covered key concepts such as graphical representation of data movement, process decomposition across Level 0, Level 1, and Level 2 diagrams, and the

identification of external entities, data stores, and flows. By abstracting implementation details, the DFDs provided a clear, structured view of system functionality and interactions. This approach aids in effective problem analysis, ensuring accurate system design and improved communication between technical and non-technical stakeholders.